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Complexation of copper(II) with monosubstituted 3-benzoyl thiocarbamide in gelatin-immobilized copper(II) hexacyanoferrate(II) matrices

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Abstract

The complexation in the Cu(II)-ligand systems in the thin gelatin layers of immobilized matrices of copper(II) hexacyanoferrate(II), contacting water-alkaline (pH 12.0 ± 0.1) solutions of 1-(--hydroxy)- and 1-(2-hydroxy)phenyl-3-benzoyl thiocarbamide, is studied. It is established that, under these conditions, the initial act consists in the decomposition of Cu2[Fe(CN)6] to Cu(OH)2. The latter reacts with organic compounds to form chelates. Two {[Cu(HL)(OH)H2O] and [Cu(HL)2]} water-insoluble complexes are found to form in the Cu(II)-1-(4-hydroxy)phenl-3-benzoyl thiocarbamide system, and three {[Cu(HL)(OH)H2O], [Cu(HL)2], and [Cu2L2]} water-insoluble complexes form in the Cu(II)-1-(2-hydroxy)phenyl-3-benzoyl thiocarbamide system.